No. 891,474. PATENTED JUNE 23, 1908.

O. E. GRESSLY.

GAS WASHER.

APPLICATION FILED FEB. 28, 1908.

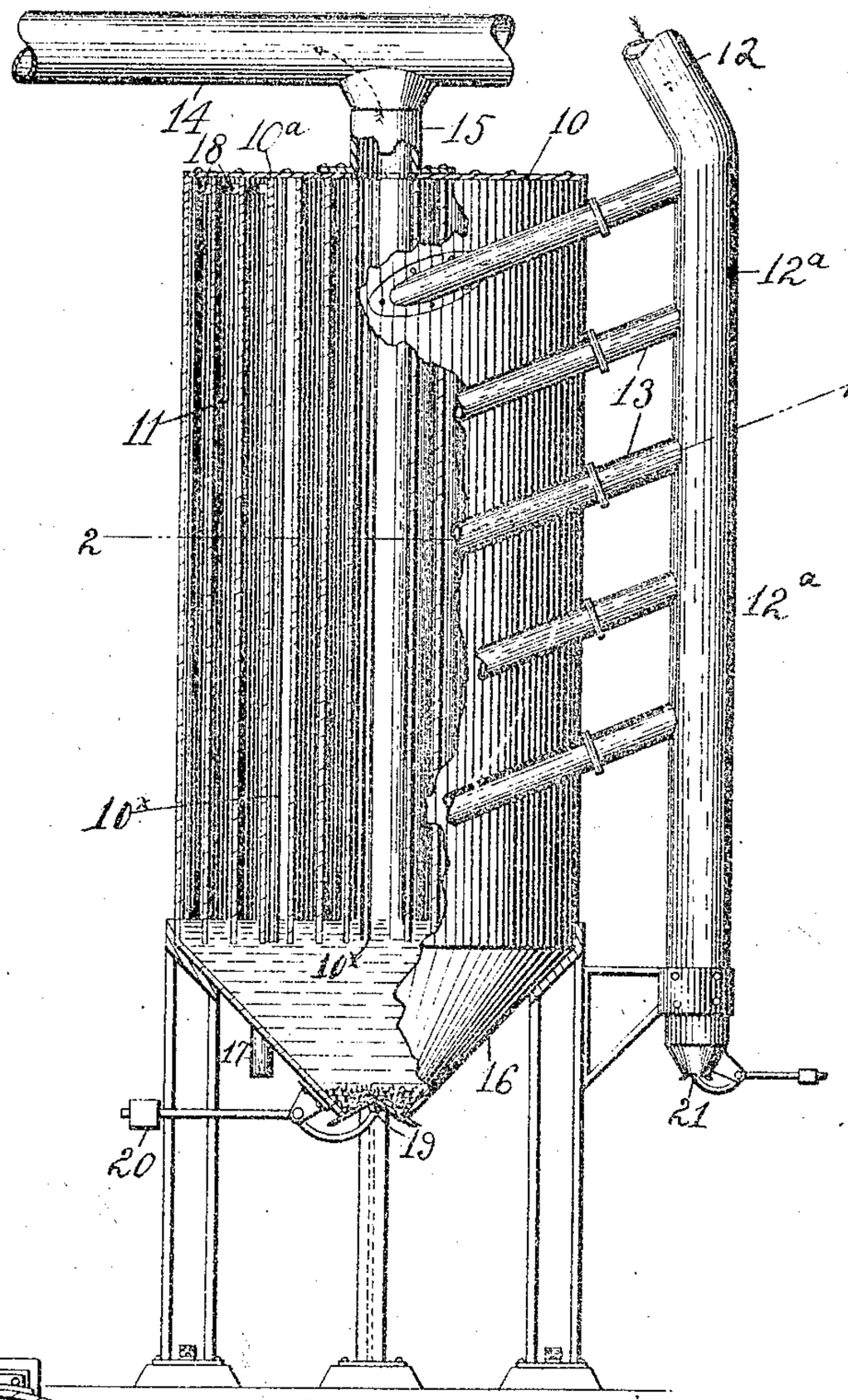

Fig. 1.

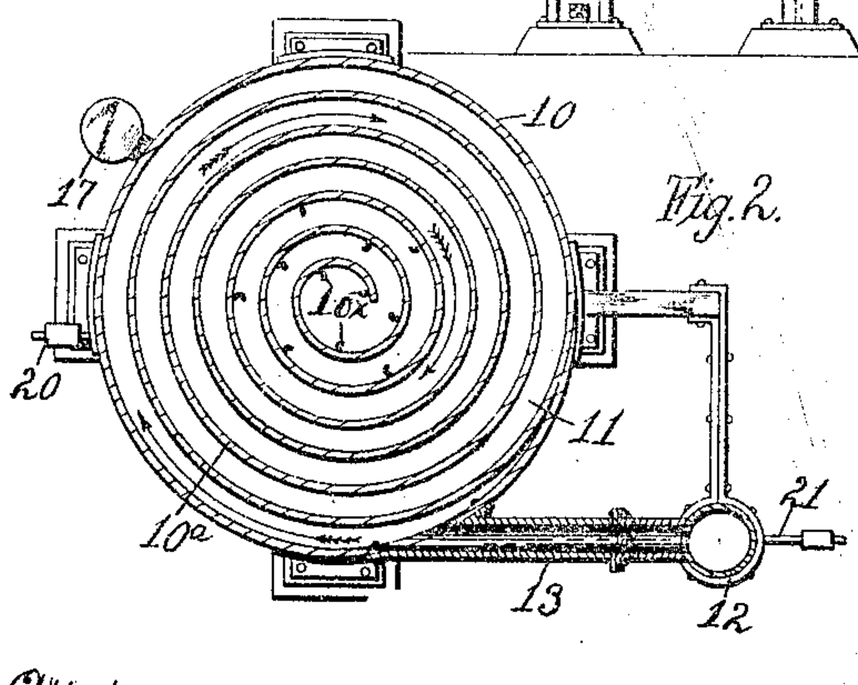

Fig. 2.

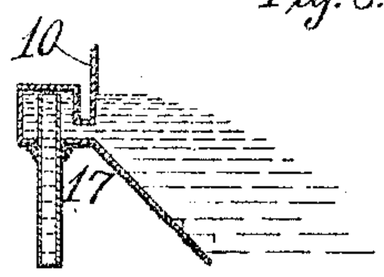

Fig. 3.

Attest:
Bentley Stahl
Edwd L. Tolson.

Inventor:
O. E. Gressly.
By Glascock Middleton Donaldson & Shea
Atty's.

UNITED STATES PATENT OFFICE.

OSCAR EMIL GRESSLY, OF BEAVER, PENNSYLVANIA.

GAS-WASHER.

No. 891,474. Specification of Letters Patent. Patented June 23, 1908.

Application filed February 28, 1908. Serial No. 418,342.

To all whom it may concern:

Be it known that I, OSCAR EMIL GRESSLY, a citizen of the United States, residing at Beaver, Pennsylvania, have invented certain new and useful Improvements in Gas-Washers, of which the following is a specification.

My invention relates to improvements in gas washers, and the object of the invention is to provide a simple, economical, durable and efficient washer in which every portion of the gas shall be subjected to the action of the washing liquid, thereby insuring of its complete washing or purification.

With these and other objects in view, the invention includes the features of construction and arrangement and combination of parts hereinafter described, and particularly set forth in the appended claims.

An embodiment of my invention is illustrated in the accompanying drawings, in which,—Figure 1 is a side elevation, partly in section, of the washer. Fig. 2 is a horizontal section on line 2—2 of Fig. 1. Fig. 3 is a sectional detail.

Referring by reference characters to this drawing, the body of the washer is indicated by the numeral 10 and is substantially cylindrical in form as shown. It is formed with an interior spiral partition 10^a, which forms a continuation of the outer wall of the cylinder and which forms an interior spiral channel or gas passage 11. A gas supply main 12 leading from any suitable source of gas supply, such as a gas generator, has a vertical portion 12^a extending parallel to the outer wall of the cylinder or body 10 to which it is united by a plurality of parallel branches or passages 13, which, as shown in the drawings, connect with the outer portion of the spiral channel 11. The branches 13 I prefer to have sloping so that the dirt in the unwashed gas cannot accumulate. A gas delivery main 14 is connected with a central portion 15 of the body or cylinder 10. I prefer to make the bottom of the cylinder or body of conical shape as indicated at 16 and to adapt it for containing a body of water as shown, the level of which is maintained above the lower end of the spiral partition wall 10^a by a suitable overflow pipe as indicated at 17.

In the spiral chamber or passage 10^a at the top of the cylinder is located a spiral water sprinkling system 18, which is connected with any suitable source of supply (not shown). This water sprinkling system may, as shown, consist of a coil provided with perforations in its underside so that while the gas is passing through the spiral channel a continuous spray of water is delivered through the gas, and a film of water is forming itself along the walls of the spiral passage, whereby the gas is effectually washed or purified. The inner part of the spiral channels are provided with baffles $10^\times$ (see Fig. 2) for the purpose of taking the moisture out of the cleaned gas.

The conical bottom of the chamber 16, which forms a receiving hopper for the impurities, is provided with a valve or gate 19, which is normally held closed by a weight 20, but may be opened from time to time for the removal of the sediment which collects in the receiving hopper. A similar valve 21 may be provided at the bottom of the gas supply main for cleaning purposes.

From the foregoing description it is thought that the operation of my invention will be obvious, but it may be briefly stated as follows:—The gas coming through the supply main and the horizontal branches is delivered into the outer portion of the spiral channel and flows around through the same in a thin vertical layer. Its movement through this passage is necessarily rapid owing to the passage being a narrow one and the circular movement develops a centrifugal force which tends to throw the impurities outward against the outer wall of the spiral passage and effect a partial separation. Such impurities will be washed downwardly by the water from the spray pipe which strikes against the wall, and further the impurities which continue to pass with the gas will be removed by the water spray falling through the passage. The water absorbed by the gas will be effectively eliminated by the baffling arrangement.

It will be obvious of course that the direction of the passage of the gas through the washer may be changed without departing from the spirit of my invention, as the gas could be supplied through the main 14 and withdrawn by the main 12.

Having thus described my invention what I claim is:—

1. A gas washer comprising a spiral pas-

sage having a gas inlet at one portion and a gas outlet at the other portion, and means for spraying water upon the gas during its movement through the passage, substantially as described.

2. A gas washer comprising an elongated body having an interior spiral passage, a pipe having a plurality of branches connected to the outer portion of said spiral passage, a pipe connected to the central portion of the spiral passage, and a coiled water spray system located in the upper portion of the spiral passage, substantially as described.

3. A gas washer comprising a substantially cylindrical body vertically disposed and having an interior spiral wall or partition forming a spiral passage, a hopper at the bottom of said body, means for maintaining water in said hopper with the surface of the water above the lower edge of the spiral partition, a water spray system located at the upper portion of the spiral passage, and means for supplying gas to one portion of the spiral passage and withdrawing it from another portion, substantially as described.

4. A gas washer comprising a spiral passage having a gas inlet at one portion and a gas outlet at the other portion, and means for spraying water upon the gas during its movement through the passage, and a moisture intercepting device in a portion of said passage, substantially as described.

5. A gas washer comprising a spiral passage having a gas inlet at one portion and a gas outlet at the other portion, means for spraying water upon the gas during its movement through the passage, and a series of baffles located in a portion of said spiral passage, substantially as described.

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

OSCAR EMIL GRESSLY

Witnesses:
B. E. ARNOLD,
M. J. STEWART.