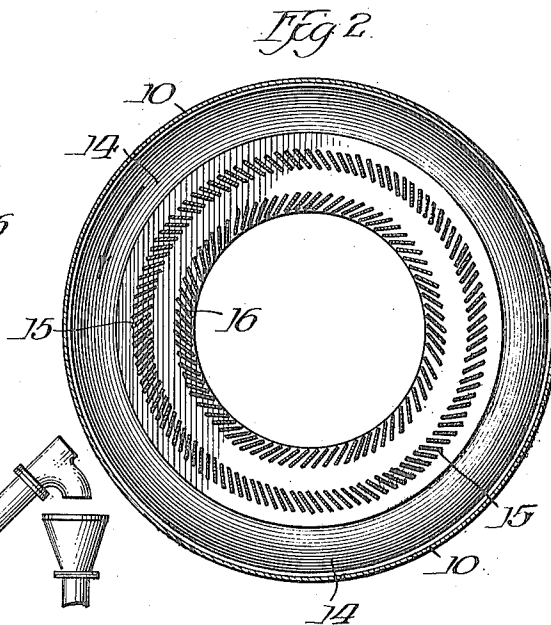


1,264,263.



Witnesses:
 Ted Brown
 679 Murray

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UNITED STATES PATENT OFFICE.

HERMANN A. BRASSERT, OF CHICAGO, ILLINOIS.

GAS-DRIER.

1,264,263.

Specification of Letters Patent.

Patented Apr. 30, 1918.

Application filed December 8, 1915. Serial No. 65,674.

To all whom it may concern:

Be it known that I, HERMANN A. BRASSERT, a citizen of the United States, and resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gas-Driers, of which the following is a specification.

My invention relates to apparatus for purifying and washing gas, and has particular reference to a novel gas washing device of the vertical type.

In my application, Serial No. 36,818, filed June 28, 1915, I disclosed gas washing and drying apparatus which was found to be very efficient in service. However, in many furnaces there is not sufficient space to permit of the use of a horizontal drying apparatus between the gas washer and the gas mains which feed the stoves and boilers. The present construction is designed to meet the difficulties encountered in such situations.

In the present construction I have made use of the principle of centrifugal force, to the end that moisture which is carried in suspension in the gas is thrown outwardly against the shell of the washer, and allowed to trickle down to the lower end thereof. In addition to the separation caused in this manner, I prefer to employ one or more rows, or series, of wooden baffles placed vertically, and between which the gas must pass on its way to the outlet. These baffles are set at an acute angle to the line of motion of the gas, to the end that the moisture is caused to impinge thereagainst. In addition I provide a plurality of sprays, whereby all the surfaces on which deposits may be made may be flushed, or cleaned, at proper intervals.

The invention will be more readily understood by reference to the accompanying drawings, wherein—

Figure 1 is a vertical section through a gas drier constructed in accordance with my invention, and

Fig. 2 is a section on the line 2—2 of Fig. 1, the view being somewhat enlarged.

In the drawings it will be seen that I have provided a vertical cylindrical casing 10 having a tangential gas inlet 11. By reason of the location of this inlet, the gas is caused to whirl in the casing, the centrifugal force tending to throw the particles of entrained moisture in the gas against the walls of the casing, down which the moisture trickles to the conical lower end 11^a

of the casing. Located axially within the casing is an outlet pipe 12, the lower end 13 of which is slightly flared. Mounted between the lower end of the flared pipe 13 and an apron, or flange, 14, projecting inwardly from the casing, are two series of baffles 15, 16, one series being located concentrically within the other. These baffles are placed in close relation to each other, and the baffles of the two series are located in angular relation to each other. It will be noted that the baffles 15 are arranged at an acute angle to the line of motion of the gas, which is indicated by the arrow in Fig. 2, whereby the gas is caused to impinge sharply against the baffles and to deposit thereon any entrained moisture, which trickles down the baffles and immediately leaves the path of the gas. Likewise, after passing between the baffles 15, the gas must again change its direction, being caused to impinge against the baffles 16. The gas then passes upwardly through the outlet pipe 12 to the point of use.

Located at the proper point within the casing are sprays for removing any accumulated solids. For instance, I provide sprays 17, at the upper end of the main casing, sprays 18 at a point opposite the outer baffles, and sprays 19 inside of the inner series of baffles. I may likewise provide a spray 20 in the outlet pipe. It will be understood that these are only operated at intervals, say once a day, in order to wash down any accumulations and keep the passages free.

The baffles which I prefer to employ are composed of wood, although baffles made of metal, either plain or corrugated, may be employed without deviating from the scope of my invention.

Other modifications may be made, and such modifications as are within the scope of my claims I consider within the spirit of my invention.

I claim:

1. In a gas drier, the combination of a vertical casing, a concentric pipe mounted within the casing, a circularly arranged row of baffles depending from the lower end of said pipe to change the direction of flow of the gas, and a water seal at the lower end of said casing, substantially as described.

2. In a gas drier, the combination of a vertical casing having a tangential inlet, a vertical pipe within said casing, said pipe

being axially arranged, and a plurality of rows of baffles arranged in circular form and projecting downwardly from the lower end of said pipe to change the direction of flow of the gas, and means projecting inwardly from the wall of said casing for assisting in supporting said baffles, substantially as described.

3. In a gas drier, the combination of a vertical casing having a tangential inlet near its upper end, an outlet pipe extending downwardly in said casing and provided at its lower end with a plurality of concentric rows of vertical baffles closely spaced, and the baffles of one row being placed at an angle to the baffles of the adjacent row, and means for spraying said baffles to remove accumulated solids, substantially as described.

4. In a gas drier, the combination of a

vertical casing having a tangential gas inlet near its upper end, an outlet pipe projecting downwardly within said casing, a plurality of concentric rows of vertical baffles located closely adjacent to each other and depending from the lower end of said outlet pipe to change the direction of flow of the gas, and the baffles of one row being placed at an angle to the baffles of the adjacent row, means for intermittently spraying the inner and outer surfaces of said baffles to remove deposits therefrom, and means for spraying the inner walls of said casing, substantially as described.

Signed at Chicago, Illinois, this 2nd day of December, A. D. 1915.

HERMANN A. BRASSERT.

Witnesses:

D. V. MEDALIE,
W. J. WHITE.