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UNITED STATES PATENT OFFICE.

JOSHUA KIDD, OF NEW YORK, N. Y.

IMPROVEMENT IN APPARATUS FOR EXHAUSTING GAS FROM RETORTS, &c.

Specification forming part of Letters Patent No. 122,894, dated January 23, 1872.

To all whom it may concern:

Be it known that I, JOSHUA KIDD, of the city, county, and State of New York, have invented a new and useful Improvement in Apparatus for Exhausting Gas from Retorts; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

My invention consists in combining together two common wet-meter drums, such as are at present in general use for measuring gas, which drums are also used as pumps for forcing a current of air through gasoline, the construction of which is well known to gas engineers. Two of these drums I make fast to one shaft, and the same I put in separate cases. Each case is supplied with an inlet and an outlet orifice. An apparatus thus constructed is well known, and is at present used for mixing together gas and air; and when in operation for this purpose the apparatus is about half filled with water to seal its measuring-compartments.

What I claim as my invention in connection with this apparatus is, its application for exhausting gas from retorts; also, in the application of hydrocarbon-vapor generated under pressure as a motive power for driving the drums. Hydrocarbon-vapor, under pressure, passes into the compartments of one of the drums, and thus causes it to rotate and actuate the second drum. The vapor, after leaving the first drum, passes into the decomposing-retorts, from which the gas generated is drawn by the suction of the second drum. The gas, on leaving the second drum, is forced into the gas-holder by the power of the vapor

actuating the first drum. It will readily be seen that, if water was used as a seal for the measuring-compartments of the drums, the hot vapor and gas would quickly vaporize it. To prevent this I use dead oil, or other liquids of a much higher boiling-point than water, to seal the compartments of the drums; and, when desired, I mix air with the gas by placing an adjustable aperture, open to the atmosphere, in or attached to the gas-exit pipe anywhere between the retorts and the exhausting-drum. By this means any desired quantity of air may be sucked into the drum along with the gas, and forced into the gas-holder or to the burners for consumption.

Having now described my invention, I would have it particularly understood that I make no claim to the apparatus except for the purposes of my invention.

I claim as new—

1. Combining with a vaporizing apparatus where vapor is generated under pressure, two wet-gas meter drums, both made fast to one shaft; one drum being driven by the pressure of the escaping vapor as it passes to retorts to be decomposed, and the other connected to the outlets of said retorts for drawing or exhausting the gas therefrom.

2. I claim an adjustable outlet or cock, placed in any part of the exit-pipe between the decomposing-retort and the exhausting-drum, for allowing air to be drawn into the drum with the gas.

JOSHUA KIDD.

Witnesses:

W. J. KIDD,

WM. F. McNAMARA.