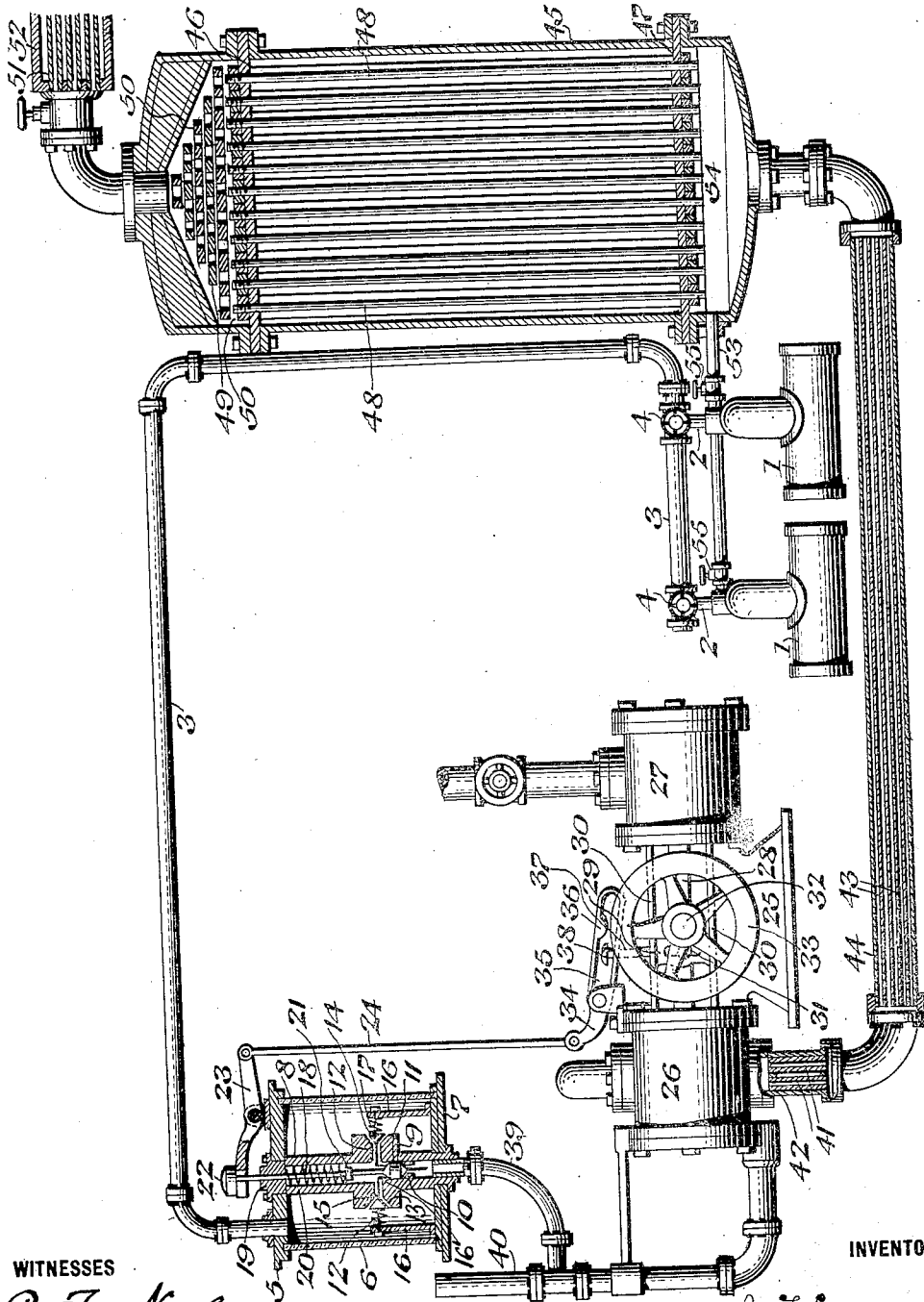


C. A. KUENZEL.
 PROCESS FOR PRODUCING COMBUSTIBLE GAS.
 APPLICATION FILED NOV. 29, 1911.

1,042,567.

Patented Oct. 29, 1912.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES A. KUENZEL, OF BUENA VISTA, COLORADO, ASSIGNOR TO THE KUENZEL GAS PRODUCER & SMELTER CONSTRUCTION CO., A CORPORATION OF WASHINGTON.

PROCESS FOR PRODUCING COMBUSTIBLE GAS.

1,042,567.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed November 25, 1911. Serial No. 663,01

To all whom it may concern:

Be it known that I, CHARLES A. KUENZEL, a citizen of the United States, residing at Buena Vista, county of Chaffee, State of Colorado, have invented a new and useful Process for Producing Combustible Gas, of which the following is a specification.

My invention consists of an improved process for generating gas.

The drawing represents a somewhat diagrammatic view, partly in section and partly in elevation, of the producer or generator for carrying out my process.

Referring to the drawings, the reference numerals 1 indicate oil-tanks having each an outlet-pipe, 2, communicating with an oil-supply pipe, 3, and having each a cut-off valve, 4. Said supply pipe enters a head, 5, of a glass-cylinder, 6, forming an oil-receptacle and having a bottom, 7. A tube, 8, is axially secured in said receptacle, having its ends secured in the head and bottom, and said tube has a valve-chamber, 9, formed at about its middle. A valve-seat, 10, is formed in the bottom of said chamber, and a valve, 11, is seated upon said seat. Said valve is in the shape of a double cone. The sides of the valve-chamber are formed with radial channels, 12, having valve-seats, 13, at their outer ends, and valves, 14, fit upon said seats and have stems, 15, extending inward and provided with heads, 16, at their inner ends, which heads may be engaged and moved outward by the upper, cone-shaped end of the main valve 11, when the latter is raised. The outer ends of the valve-stems slide in upright guides, 16, in the oil-receptacle and springs, 17, upon said stems bear against said guides and the lateral valves 14, to force the same against their seats. The main valve has a stem, 18, which slides through a gland, 19, in the head of the receptacle and has a spring, 20, around it, bearing against said gland and against a shoulder, 21, upon the stem to force the main valve down upon its seat. The upper end of the valve-stem has a head, 22, and the forked end of a lever, 23, engages the stem and head. Said lever is fulcrumed upon the head of the oil-receptacle and has the upper end of a connecting rod, 24, pivotally connected to it.

A double-acting air-compressor, 25, of any known or desired type has a com-

pression-cylinder, 26, and a power-cylinder, 27, for steam or other power, and the pistons of said cylinder are connected by a piston-rod, 28, carrying a slotted cross-head, 29, guided in ways 30, and engaging a crank, 31, upon the shaft, 32, of a fly-wheel, 33. A lever, 34, is fulcrumed upon the compression cylinder and has one arm pivotally connected to the lower end of the connecting rod 24. The other arm of said lever has a slot, 35, formed with a cam-bulge, 36, at about its middle, and an arm, 37, is secured to the cross-head of the compressor and has a cam-head, 38, movable within the slot of the lever and engaging the cam-bulge in the same. A pipe, 39, extends from the lower end of the axial tube in the oil-receptacle, below the main-valve-seat in the same, and said pipe enters a pipe, 40, having an open upper end for the intake of air and connected to the intake of the compression-cylinder.

A conduit is formed by a number of pipes, 41, of small diameter which are connected to the outlet of the compressor and inclosed in a jacket, 42, which pipes again communicate with a number of pipes, 43, inclosed in a jacket, 44, and said pipes open into the lower end of a gas-container, 45, having plates, 46 and 47, at its upper and lower ends, into which the ends of a number of pipes, 48, of small diameter are secured. A checker-work, 49, of blocks, 50, is placed upon the upper plate 46 in the container, and a number of pipes 51, inclosed in a jacket 52, lead from the top of the container to the burner or whatever other device where the gas is burned or otherwise consumed. A pipe, 53, leads from the bottom-space, 54, of the container and is connected to the tops of the oil-tanks—suitable valves, 55, being provided to control the supply of gas under pressure to said tanks.

In carrying out my improved process, I draw liquid oil, together with air through the intake pipe and compress the same. The compression of air generates heat whereby the oil is vaporized and is mixed with such compressed air by being carried through the small-diameter pipes under compression, the gas being maintained under pressure until allowed to expand at the burner. By maintaining the gas under substantially the initial pressure of compression, the gas is prevented from decomposing and returning

to the original state of its constituent elements.

I claim—

The process of producing a combustible gas, which consists in feeding proportionately small quantities of liquid oil into proportionately large quantities of air, vaporizing the oil by compressing such mixed oil

and air, and maintaining substantially the initial pressure upon such mixture until it is 10 consumed without further addition of air.

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Witnesses:

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