E. JONES.

GAS PRODUCER.

APPLICATION FILED MAR. 19, 1909.

969,375.

Patented Sept. 6, 1910.

3 SHEETS—SHEET 1.

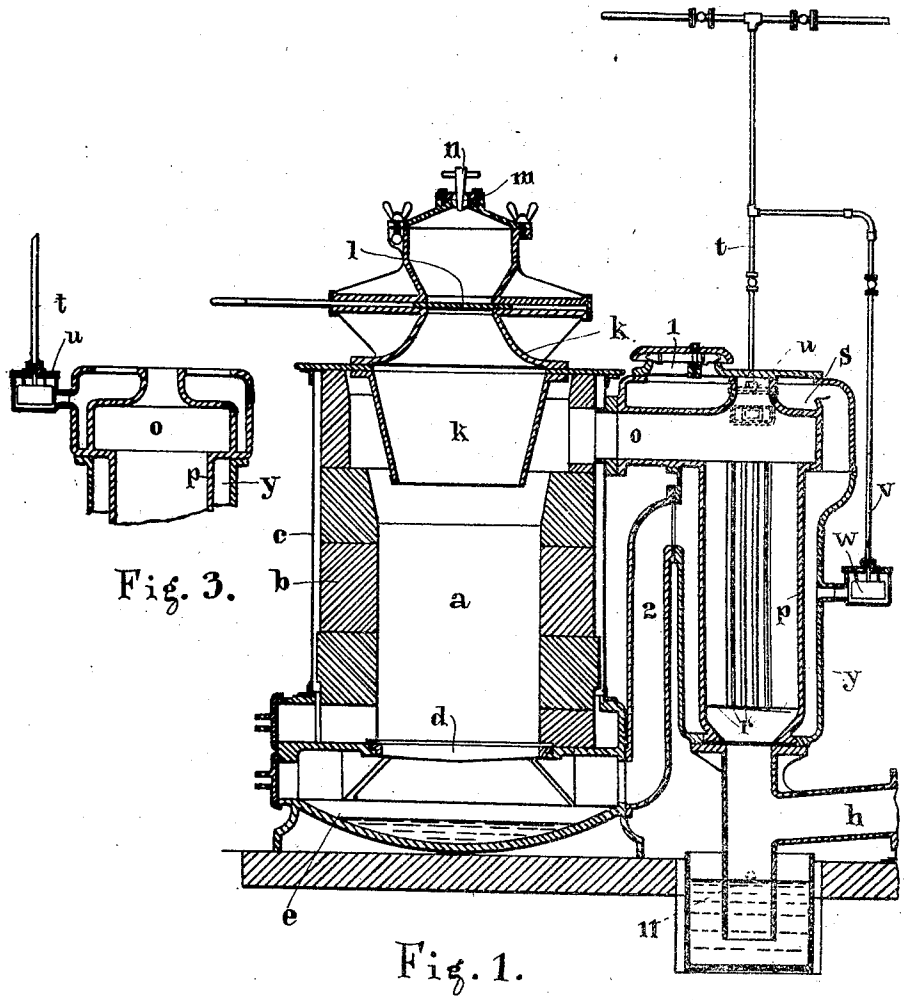

Fig. 3.

Fig. 1.

Attest:

Edwd. L. Tolson

Bentley Stahl

Inventor:

Edward Jones,

By Spear, Middleton, Donaldson & Spear

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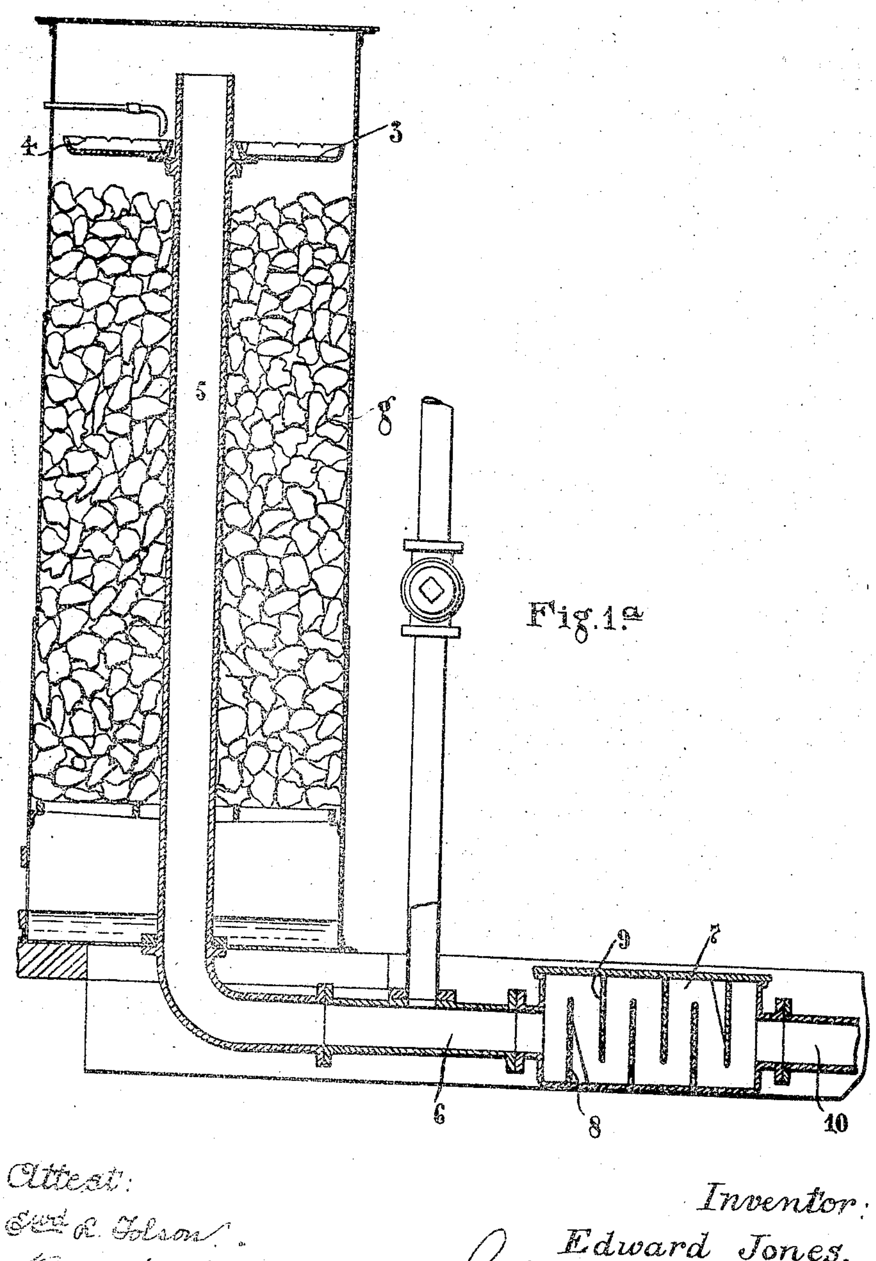

Fig. 1a

Attest:
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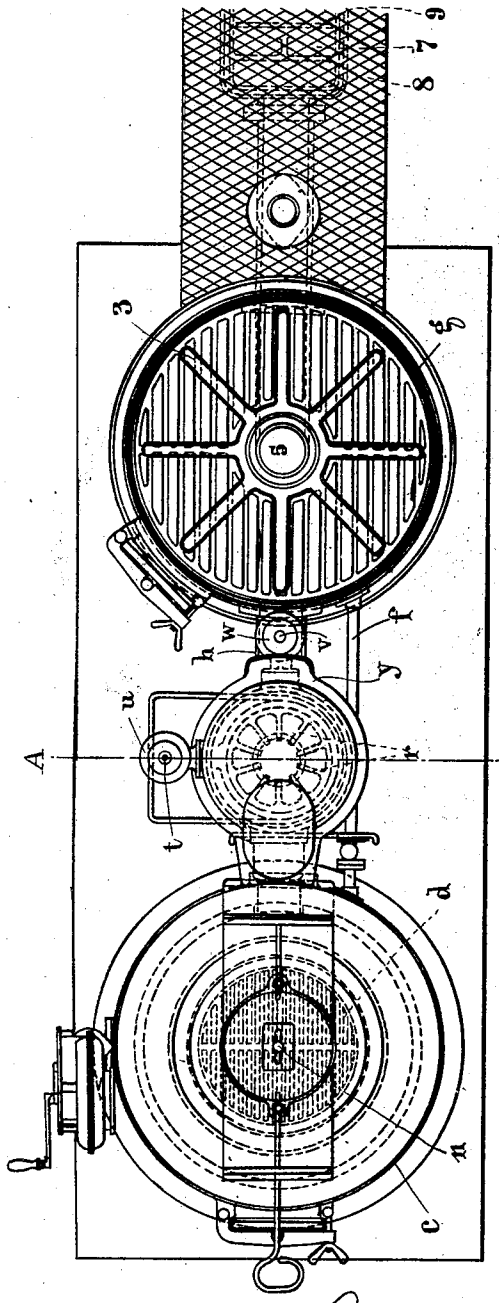

Fig. 2.

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UNITED STATES PATENT OFFICE.

EDWARD JONES, OF PERRY BARR, ENGLAND, ASSIGNOR TO KYNOCH LIMITED, OF BIRMINGHAM, ENGLAND.

GAS-PRODUCER.

969,375. Specification of Letters Patent. Patented Sept. 6, 1910.

Application filed March 19, 1909. Serial No. 484,534.

To all whom it may concern:

Be it known that I, EDWARD JONES, a subject of the King of Great Britain and Ireland, and residing at Broomfield House, Perry Barr, in the county of Stafford, England, have invented certain new and useful Improvements in Gas-Producers, of which the following is a specification.

This invention relates to gas producers, and has for its object to construct such producers in an improved manner, and to provide improved automatic water feeding arrangements and vaporizers for suction producers.

Referring to the accompanying drawings:—Figures 1 and 1ª show a sectional elevation of the apparatus, these figures being on separate sheets, but forming parts of the whole device; Fig. 2 being a plan; while Fig. 3 is a section on the line A B, Fig. 2.

In carrying the invention into effect according to the form illustrated, the walls of the gas producer *a* are formed of any usual fire-resisting material *b*, and are provided with an iron casing *c*. Below the grate *d* of the gas producer there is provided a vessel *e*, containing water, which is fed to the producer by the pipe *f*, leading from the base of the scrubbing tower *g*. The level of the liquid at the bottom of the scrubbing tower *g* is kept constant by means of the overflow through the pipe *h*. The top of the producer *a* is provided with a coal hopper *k*, and in this hopper there is situated a horizontal slide *l* adapted to close the producer when coal is being fed into the top of the hopper. At the top of the hopper there is provided a ball joint *m*, adapted to be closed by a conical spigot *n* which is removable in order to insert a poking rod. Gases are formed in the usual manner in the producer and pass therefrom by the pipe *o*, down the central tube *p* of the vaporizer and out by the pipe *h* to the bottom of the coke scrubber *g*. The pipe *p* is provided with internal ribs *r* to give a large cooling surface. The vaporizer is provided with a shallow dish *s* at its top, containing water supplied by the pipe *t*. The supply to this dish is controlled by a float feed device *u* of any well known type, which is so arranged that the normal water level in the dish *s* is slightly below the edge of the dish, so that in normal working the water passes from the dish *s* only in the form of vapor. A further supply of water to the vaporizer is brought by the pipe *v* through the float feed device *w* to the lower annulus *y*.

Air is admitted through the passage 1 at the top of the vaporizer, and through the pipe 2 to the space below the producer, taking up water vapor from the dish *s*, annular space *y*, and the vessel *e* at the bottom of the producer. The gases formed in the producer *a* pass up through the coke of the coke scrubber *g*, over which water trickles from the star shaped dish 3, which is provided with notches 4 to allow the water to overflow uniformly. The gases then pass from the top of the coke scrubber down the central pipe 5, and by the pipe 6 to the tar extractor 7, which is provided with a number of plates 8 projecting from its bottom, intermediate between plates 9 projecting from its top. The gas then passes to the engines or other consuming apparatus by the pipe 10.

It will be seen that in the above described apparatus the quantity of water passing to the producer is regulated by the float feed arrangements, as regards the part which passes into the dish *s*, and the bottom annulus of the vaporizer *y*, while the level of the water in the dish at the bottom of the producer is kept constant by reason of a constant level in the coke scrubber; the overflow keeping this level constant, and any excess of liquid below the vaporizer passing out through the pipe 11.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A gas producing plant comprising in combination a gas producing chamber; a scrubbing tower, a water receptacle at the base of said tower said water receptacle having an overflow at a definite level, a water receptacle at the base of said gas producing chamber, a connection between said water receptacles below said overflow level and a vaporizer including a shallow dish constructed to contain water, means for leading air over said water to the water receptacle of the producing chamber and a float feed device automatically regulating the water level in said dish, as set forth.

2. A gas producing plant comprising in combination a gas producing chamber; a scrubbing tower, a water receptacle at the

base of said tower said water receptacle having an overflow at a definite level, a water receptacle at the base of said gas producing chamber, a connection between said water receptacles below said overflow level and a vaporizer including a shallow dish constructed to contain water, means for leading air over said water, a float feed device automatically regulating the water level in said dish, a water chamber surrounding the exit pipe for gases from said gas producing chamber and a float feed device automatically regulating the water level in said water chamber, and means for leading the vapors from the vaporizer to the water receptacle of the producing chamber as set forth.

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

EDWARD JONES.

Witnesses:
JOHN MORGAN,
HARRY DAVIS.